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ABSTRACT

A segmented transformer coupled plasma (TCP) coil is provided as a source for generating a uniform plasma in a plasma reactor. The segmented TCP is divided into two or more segment coils which, when connected to an RF source, produces a circulating flow of electrons to cause a magnetic field in the plasma. Because the segmented TCP employs multiple segment coils, a plasma is generated that is more spatially uniform than the plasma produced by a monolithic coil. This is implemented using a power distributing component that allows the RF current to be distributed in the segment coils such that a uniform plasma density can be obtained in an area spanned by the coils. For instance, variable shunts, switchable shunts, and disconnect switches can be used to vary the RF currents in the individual coils.

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